WHAT IS CLAIMED IS:

1. A barrier coating composition, comprising:

a polymer material; and

a structuring agent dispersed in said polymer material,

wherein said structuring agent decreases oxygen or water permeability through said polymer material.

2. The barrier coating composition of claim 1, wherein said polymer material is selected from the group consisting of gelatin, alginate, carrageenan, casein, proteins, polysaccharides, waxes, gums, synthetic polymer materials, celluloses, fats, waxes, rosins, polyphosphates, and mixtures thereof.

3. The barrier coating composition of claim 1, wherein said polymer material comprises pendant ionic groups.

4. The barrier coating composition of claim 1, wherein said structuring agent is selected from the group consisting of clay, silicates and silicas, starches, phospholipids, pillared-like materials, metal salts, nano platelets, and mixtures thereof.

5. The barrier coating composition of claim 1, further comprising at least one additive selected from the group consisting of antioxidants, amino acid residues, phospholipids, sugars, and cross-linking agents.

6. The barrier coating composition of claim 1, further comprising at least one additive selected from the group consisting of antioxidants, amino acid residues, phospholipids, and sugars, wherein said at least one additive further decreases oxygen or water permeability through said polymer material.

7. A microencapsulated material, comprising:

a core component; and

a shell component encapsulating said core component, wherein said shell component comprises a polymer material and a structuring agent,

wherein said structuring agent decreases oxygen or water permeability through said polymer material.

8. The microencapsulated material of claim 7, wherein said core component is at least one of oxygen sensitive or water sensitive.

9. The microencapsulated material of claim 7, wherein said core component is selected from the group consisting of unsaturated fatty acids,

betacarotene, lutein, zeazanthin, iron salts, copper salts, selenium salts, flavonoids, coenzyme Q10, herbs, spices, flavorants, extracts, protein and peptide drugs, amino acids and amino acid residues, surfactants, enzymes, peroxides, fragrances, catalysts, vitamins, nutritional supplements, minerals, herbal products, food additives, and mixtures thereof.

10. The microencapsulated material of claim 7, wherein said polymer material is selected from the group consisting of gelatin, alginate, carrageenan, casein, proteins, polysaccharides, waxes, gums, synthetic polymer materials, celluloses, fats, waxes, rosins, polyphosphates, and mixtures thereof.

11. The microencapsulated material of claim 7, wherein said polymer material comprises pendant ionic groups.

12. The microencapsulated material of claim 7, wherein said structuring agent is selected from the group consisting of clay, silicates and silicas, starches, phospholipids, pillared-like materials, metal salts, nanoplatelets, and mixtures thereof.

13. The microencapsulated material of claim 7, further comprising at least one additive selected from the group consisting of antioxidants, amino acid residues, phospholipids, sugars, and cross-linking agents.

14. The microencapsulated material of claim 7, further comprising at least one additive selected from the group consisting of antioxidants, amino acid residues, phospholipids, and sugars, wherein said at least one additive further decreases oxygen or water permeability through said polymer material.

15. The microencapsulated material of claim 7, wherein said microencapsulated material is in a form of a powder.

16. The microencapsulated material of claim 7, wherein said microencapsulated material is in a form of a membrane wherein said core component is dispersed and encapsulated within a continuous matrix of said shell component.

17. The microencapsulated material of claim 7, wherein said structuring agent forms an interior shell around said core component, and said polymer material forms an exterior shell around said interior shell.

18. The microencapsulated material of claim 7, wherein said structuring agent is dispersed in said polymer material.

19. The microencapsulated material of claim 7, wherein said polymer material forms an interior shell around said core component, and said structuring agent forms an exterior shell around said interior shell.

20. The microencapsulated material of claim 7, wherein said microencapsulated material is formed by a method selected from atomization methods, coacervation methods, and extrusion methods.

21. A method of forming the microencapsulated material of claim 7, comprising:

forming an oil emulsion comprising an oil phase and an aqueous phase, said oil phase comprising said core component, said aqueous phase comprising said polymer material;

adding said structuring agent to at least one of said oil phase and said aqueous phase;

mixing said oil emulsion to form desired particle sizes of said core component;

forming said shell component around said core component to form said microencapsulated material; and

extracting said formed microencapsulated material from said oil emulsion.

22. The method according to claim 21, wherein said core component is present in an amount of from about 10 to about 100 percent by weight of the oil phase.

23. The method according to claim 21, wherein said core component is present in an amount of from about 75 to about 95 percent by weight of the oil phase.

24. The method according to claim 21, wherein said oil phase further comprises at least one additive selected from the group consisting of wetting agents and antioxidants.

25. The method according to claim 24, wherein said additive is present in an amount of from about 0.5 to about 5 percent by weight of the oil phase.

26. The method according to claim 21, wherein the aqueous phase further comprises a stabilizing emulsifier.

27. The method according to claim 21, wherein the polymer material is present in an amount of from about 1 to about 25 percent by weight of the aqueous phase.

28. The method according to claim 21, wherein the polymer material is present in an amount of from about 5 to about 20 percent by weight of the aqueous phase.

29. The method according to claim 21, wherein said aqueous phase further comprises at least one additive selected from the group consisting of wetting agents and antioxidants.

30. The method according to claim 29, wherein such additive is present in an amount of from about 0.5 to about 5 percent by weight of the aqueous phase.

31. The method according to claim 21, wherein said oil emulsion is formed by mixing said oil phase and said aqueous phase under an inert atmosphere.

32. The method according to claim 31, wherein said oil emulsion is formed at a temperature of from about 10 to about 50°C.

33. The method according to claim 31, wherein said mixing is at a rate of from about 100 to about 10,000 rpm.

34. The method according to claim 31, wherein said mixing is at a rate of from about 500 to about 2,000 rpm.

35. The method according to claim 21, wherein said structuring agent is added during formation of said oil emulsion.

36. The method according to claim 21, wherein said structuring agent is added to said oil phase prior to forming said oil emulsion.

37. The method according to claim 21, wherein said structuring agent is added to said oil emulsion after said oil emulsion is formed.

38. The method according to claim 21, wherein said structuring agent is added to formed capsule surfaces.

39. The method according to claim 21, wherein the structuring agent has an average particle size of from about 0.1 to about 2 μm.

40. The method according to claim 21, further comprising adding amino acid residues to said oil emulsion.

41. The method according to claim 21, wherein said formed microencapsulated material is extracted from said oil emulsion by one of filtering, spray drying or disk atomization.

42. The method according to claim 21, further comprising, after forming said oil emulsion, diluting said emulsion to a polymer concentration of less than about 3 weight percent.

43. The method according to claim 21, further comprising, after forming said oil emulsion, adjusting a pH of said oil emulsion to from about 4.4 to about 4.9.

44. The method according to claim 21, wherein said microencapsulated material is formed by cooling said oil emulsion to below its gel point.

45. The method according to claim 21, wherein said method is an atomization method.

46. The method according to claim 21, wherein said method is a coacervation method.

47. The method according to claim 21, wherein said method is an extrusion method.

48. The method according to claim 21, wherein:

said core component is present in an amount of from about 10 to about 100 percent by weight of the oil phase;

said oil phase optionally further comprises at least one additive selected from the group consisting of wetting agents and antioxidants;

said polymer material is present in an amount of from about 1 to about 25 percent by weight of the aqueous phase; and

said aqueous phase optionally further comprises at least one additive selected from the group consisting of wetting agents and antioxidants.

49. The method according to claim 21, wherein:

said core component is present in an amount of from about 75 to about 95 percent by weight of the oil phase; and

said polymer material is present in an amount of from about 5 to about 20 percent by weight of the aqueous phase, and

wherein said method further comprises the steps of, after forming said oil emulsion:

diluting said emulsion to a polymer concentration of less than about 3 weight percent;

adjusting a pH of said oil emulsion to from about 4.4 to about 4.9; and

cooling said oil emulsion to below its gel point.